

**ABSTRACT- A PROSPECTIVE STUDY TO EVALUATE BIOCHEMICAL
ALTERATIONS TO ASSESS THE SEVERITY OF DENGUE FEVER IN
ADULTS IN CMC HOSPITAL**

BACKGROUND

In this study the correlation between biochemical alterations and progression of probable dengue →dengue with warning signs →Severe dengue in adults will be assessed.

INTRODUCTION

Dengue is the arboviral infection with the largest incidence worldwide. Clinical expression of dengue virus infection varies widely from no symptoms to severe dengue. Nearly 100 million cases of DF and between 250,000 and 500,000 cases of DHF are annually reported to the World Health Organization. In India it has been on increasing trend, as in 28292 cases in 2010 and in 2015 it is 99913, it may be higher because of not proper notification and documentation system in India.

DF is characterized by fever, headache, muscle and joint pains, rash, nausea and vomiting. Some infection results in Dengue Haemorrhagic Fever (DHF). DF and DHF are caused by the four dengue viruses DEN 1, 2, 3 and 4, which are closely related antigenically. Infection with one serotype provides lifelong immunity to that virus but not to the others. Despite its clinical variability, the acute phase of dengue begins with fever that is indistinguishable from the initial phase of other acute febrile infectious diseases. Thus, acute dengue infection is often unrecognized until the appearance of the more severe forms of the disease. This observation leads to underestimation of the actual

incidence, as well as inadequate or late treatment of disabling and potentially lethal medical condition.

This study focuses on biochemical alterations as predictors of probable dengue →dengue with warning signs →Severe dengue (According to WHO 2009 guidelines). Patients with confirmed infection with dengue virus were prospectively evaluated for the first seven days of disease to determine their final clinical outcome in CMC HOSPITAL.

MATERIALS & METHODOLOGY

In this study 100 cases of dengue fever in CMCH are selected .the hospital records of patients who had admitted for dengue confirmed patients were to be prospectively evaluated.All of these patient to be subjected to be biochemical analysis such as CREATINE KINASE,LDH,TOTAL CHOLESTEROL,HDL,TRIGLYCERIDES. The diagnosis of dengue fever was diagnosed by IgM DENGUE SEROLOGY OR NS1 ANTIGEN POSITIVE TESTS.All the test done with due permission from the Institutional Ethical Committee and informed consent from the subjects.

Inclusion criteria

1. Study participants more than 13 years of age.
2. Acute febrile syndrome caused by dengue with duration of symptoms less than 96 hours.
3. Cases fulfilling the WHO 2009 guidelines for dengue fever.

Exclusion criteria

Patients with any of the following conditions were excluded:

1. History of concomitant diseases such as diabetes, acquired immunodeficiency syndrome, hematologic disorders, cancer, or cardiac disease
2. Admitted with severe dengue [DHF]
3. Major bleeding albuminemia ($< 3\text{g/dL}$)
4. Effusions, Shock.
5. Consent not given

CONCLUSION

As this study and statistics points out that there is a significant association with biomarkers such as CK, LDH, CHOLESTEROL, HDL, TRIGLYCERIDES, SERUM ALBUMIN, SGOT & SGPT, and also it clearly states that they are significant raised in DWWS and SD rather than in DNWS, so, with these biomarkers we can able to suspect that which patients who are more prone to go for DWWS & SD, as that patients under careful supervision and management can able to prevent them from progressing to severe dengue. High values of CREATININE KINASE, LACTATE DEHYDROGENASE, ASPARTATE TRANSAMINASE and ALANINE TRANSAMINASES & Reduced levels of CHOLESTEROL, HIGH DENSITY LIPOPROTEIN, TRIGLYCERIDES and SERUM ALBUMIN As Early alterations of these biochemical markers can predict progressing to SEVERE DENGUE in patients with acute fever caused by dengue

KEYWORDS : Severe dengue, Creatinine kinase, Lactate dehydrogenase.